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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,990	05/03/2006	Michael Offenhuber	R.305991	4934
2119 7590 05/30/2008 RONALD E. GREIGG GREIGG & GREIGG P.L.L.C. 1423 POWHATAN STREET, UNIT ONE ALEXANDRIA, VA 22314				
EXAMINER				
TRAN, BINH Q				
ART UNIT		PAPER NUMBER		
3748				
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05/30/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/577,990

**Applicant(s)**

OFFENHUBER ET AL.

**Examiner**

BINH Q. TRAN

**Art Unit**

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/88)  
Paper No(s)/Mail Date 05/03/2008
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

### **DETAILED ACTION**

Receipt and entry of Applicant's Preliminary Amendment dated May 03, 2006 is acknowledged.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

***Claims 8-15, and 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huber et al. (Huber) (Patent Number 7,017,335) in view of Tokuda et al. (Tokuda) (Patent Number 7,263,972).***

Regarding claim 8, Huber discloses an apparatus for introducing a reducing agent (1) containing urea into the exhaust (29, 31) of an internal combustion engine, the apparatus comprising a reservoir (1), a delivery unit (2, 3, 4, 8, 25), a flow path (1a) for the reducing agent, a ventilation device (7) for ventilating at least one region of the flow path, and a ventilation opening in the ventilation device that always permits a return of a minimal fluid quantity to the reservoir (c.g. See col. 2, lines 4-19; col. 3, lines 5-61). However, Huber fails to disclose the ventilation device being situated at a geodetic high point of the flow path.

Tokuda teaches apparatus for supplying fuel of an internal combustion engine comprising: a ventilation device (210) being situated at a geodetic high point of the flow path (220) (e.g. See col. 12, lines 26-60).

It would have been recognized by one of ordinary skill in the art at the time the invention was made, that applying the known technique of using a ventilation device being situated at a geodetic high point of the flow path, as taught by Tokuda to the exhaust purifying system of Huber, would have yielded predictable results and resulted in an improved system for increasing the pressure of reducing agent supplying to the exhaust gas system of an internal combustion engine more accurate, to further improve the performance of the engine and the efficiency of the NOx catalyst system. In addition, the Huber and Tokuda references are known work in one of field of endeavor, and such modification is merely the use of known technique to improve a similar device by using a ventilation device being situated at a geodetic high point of the flow path, and such modification, i.e. choosing from a finite number of predictable solutions, is not of innovation but of ordinary skill and common sense. (See “KSR Int’l Co. v. Teleflex Inc., 82 USPQ2d 1385 (U.S. 2007)”).

Regarding claim 9, Huber further discloses wherein the ventilation device comprises a float valve (7) (e.g. See col. 2, lines 4-19; col. 3, lines 5-61).

Regarding claim 10, Huber further discloses wherein the ventilation device includes a solenoid valve (e.g. See col. 2, lines 4-19; col. 3, lines 5-61).

Regarding claim 11, Huber further discloses wherein the ventilation device comprises a flow throttle (e.g. See col. 2, lines 4-19; col. 3, lines 5-61).

Regarding claims 12-15, Huber further discloses a filter (3), and wherein the ventilation device is situated in the filter or in close proximity to the filter (e.g. See col. 2, lines 4-19; col. 3, lines 5-61).

Regarding claims 20-25, Huber further discloses wherein the ventilation device is situated upstream of the delivery unit (e.g. See col. 2, lines 4-19; col. 3, lines 5-61).

*Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huber in view of Tokuda, and further in view of design choice.*

Regarding claims 16-19, Huber in view of Tokuda discloses all the claimed limitation as discussed above except the filter is able to operate in two different installation positions that differ from each other by approximately 90° and wherein the ventilation device is situated at an angle of approximately 45° between the two installation positions.

Regarding the specific range of the filter and ventilation device positions, it is the examiner's position that a range approximately 90° of the filter position and an angle of approximately 45° of the ventilation device, would have been an obvious matter of design choice well within the level of ordinary skill in the art, depending on variables such as mass flow rate of the exhaust gas, as well as the concentration and temperature of reducing agent in the exhaust gas, properties of materials for making the NO<sub>x</sub> storage catalyst, and the controlled temperature of the catalytic converter. Moreover, there is nothing in the record which establishes that the claimed parameters present a novel or unexpected result, and such modification, i.e. choosing from a finite number of predictable solutions, is not of innovation but of ordinary skill and

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common sense. (See *KSR International Co. v. Teleflex Inc.*, 550 U.S.--, 82 USPQ2d 1385 (April 30, 2007)).

Under some circumstances, however, changes such as these may impart patentability to a process if the particular ranges claimed produce a new and unexpected result which is different in kind and not merely in degree from the results of the prior art. In *re Dreyfus*, 22 CCPA (Patents) 830, 73 F.2d 931, 24 USPQ 52; In *re Waite et al.*, 35 CCPA (Patents) 1117, 168 F.2d 104, 77 USPQ 586. Such ranges are termed "critical" ranges, and the applicant has the burden of proving such criticality. In *re Swenson et al.*, 30 CCPA (Patents) 809, 132 F.2d 1020, 56 USPQ 372; In *re Scherl*, 33 CCPA (Patents) 1193, 156 F.2d 72, 70 USPQ 204. However, even though applicant's modification results in great improvement and utility over the prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art. In *re Sola*, 22 CCPA (Patents) 1313, 77 F.2d 627, 25 USPQ 433; In *re Normann et al.*, 32 CCPA (Patents) 1248, 150 F.2d 627, 66 USPQ 308; In *re Irmischer*, 32 CCPA (Patents) 1259, 150 F.2d 705, 66 USPQ 314. More particularly, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In *re Swain et al.*, 33 CCPA (Patents) 1250, 156 F.2d 239, 70 USPQ 412; *Minnesota Mining and Mfg. Co. v. Coe*, 69 App. D.C. 217, 99 F.2d 986, 38 USPQ 213; *Allen et al. v. Coe*, 77 App. D.C. 324, 135 F.2d 11, 57 USPQ 136.

### ***Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of five patents:

Oshima et al. (Pat. No. 5272871), Bramfitt (Pat. No. 3783849), Andrew et al. (Pat. No. 6804949), Tarabulski et al. (Pat. No. 6063350), and Weisweiler et al. (Pat. No. 6399034) all discloses an exhaust gas purification for use with an internal combustion engine.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Binh Tran whose telephone number is (571) 272-4865. The examiner can normally be reached on Monday-Friday from 8:00 a.m. to 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reach on (571) 272-4859. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/BINH Q. TRAN/

Binh Q. Tran  
Primary Examiner, Art Unit 3748  
May 22, 2008